

REMARKS

Claims 1-10 are pending in this application. By this Amendment, claims 9 and 10 are amended. Claims 1, 6 and 9 are independent.

REJECTION UNDER 35 U.S.C. § 112

Claims 9 and 10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite as failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The rejection is respectfully traversed.

In the Office Action, the Examiner asserts that “generating infinite mutual orthogonal sequences” is indefinite because it is impossible to reach infinity. However, Applicants respectfully submit that mutual orthogonal sequences may be generated to infinity. Nonetheless, claims 9 and 10 have been amended to remove the term “infinity”, and in order to overcome the rejection under 35 U.S.C. § 112, second paragraph. Further, it is noted that the amendments to claims 9 and 10 are non-narrowing amendments, made for clarifying purposes only, and not to overcome any prior art or for any other statutory considerations.

Accordingly, Applicant respectfully requests withdrawal of this rejection.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Andersson et al. (hereinafter “Andersson”), US Patent 5,937,002. The rejection is respectfully traversed.

Initially, it is noted that claims 9 and 10 have not been rejected under art, and thus Applicant has assumed that these claims contain allowable subject matter. Further, as it will

become evident to the Examiner, Applicant respectfully submits that independent claims 1 and 6 are allowable as they now stand.

Applicant submits that Andersson fails to teach or disclose, a wireless system, comprising, at least, “a frequency hopping generator, the frequency hopping generator providing a frequency sequence having a short term deterministic structure, wherein the deterministic structure of the frequency sequence is in matrix form, where each row of the matrix is a vector, and all components of each vector are generated simultaneously”, as recited in claim 1.

Instead, Andersson discloses the use of a random number generating device 221 to increase the functionality of a device 220. The random number generating device 221 generates randomly a unique integer between 0 and k for each time interval referenced 0, 1 and 2 in a matrix (col. 10, lines 28-32). In other words, rather than providing a frequency sequence having a short term deterministic structure as recited in claim 1, Andersson teaches a random structure.

Further, Andersson discloses frequency hopping as a general technique to be implemented in a wireless network, which is already implemented in a GSM standard, rather than specifying how the sequence is generated and what characteristics the sequence is provided with (e.g., a specific mathematical method to generate and maintain the hopping sequence used in the frequency hopping).

Andersson also attempts to achieve a different solution than the claimed invention. For example, Andersson attempts to achieve: 1) arranging a used channel (i.e., a frequency) through connections (i.e., time slot); and 2) the principal of matching the channels with the connections (e.g., the better a connection with respect to attenuation, the poorer the channels with respect to interference that are allocated to the connection) (Abstract). This is antithetical to Applicants’ solution.

To achieve the above, Andersson requires the hopping sequence length to be shorter than the number of channels. Otherwise, it would be impossible for any one channel to avoid another channel. Thus, Andersson is constrained by the fact that the hopping sequence should have a length that is as short as possible, and it is well known in the art that it is substantially difficult to achieve randomness with a short sequence (e.g., with three channels you may have only three possible sequences).

Accordingly, Andersson fails to disclose or suggest “a frequency hopping generator, the frequency hopping generator providing a frequency sequence having a short term deterministic structure, wherein the deterministic structure of the frequency sequence is in matrix form, where each row of the matrix is a vector, and all components of each vector are generated simultaneously”, as recited in claim 1.

With respect to independent claim 6, Applicant submits that Andersson fails to teach or disclose, *inter alia*, “generating several frequency sequences in vector form; and generating a matrix including the several frequency sequences in vector form.”

For at least these reasons, Applicant respectfully submits that Andersson fails to disclose or render obvious the features recited in independent claims 1, 6 and 9. Claims 2-5, 7-8 and 10, which depend from the respective independent claims are likewise distinguished over the applied art for at least the reasons discussed, as well as for the additional features they recite. Reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1-10 is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the

telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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